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Outer Shell Fabric for Fire Protective Garments for Firefighters and for Workers Exposed to Risk of Flash Fire or Electric Arc.

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ABSTRACT OF THE DISCLOSURE

The outer shell fabric according to the invention is made of a textile material which is a double-weave woven fabric or a warp-knit knitted fabric constructed in such a manner that preferably a majority of one yarn type is placed on the face of the fabric and the majority of a different yarn type is placed on the back surface. One of the yarns may consist of multi-filamentary meta-aramid fiber (e.g. Nomex), the other of either a multi-filamentary or a spun (staple) para-aramid fiber (e.g. Kevlar). The textile material can be visualized as two separate fabrics being interlaced together by the sharing of yarns between them. When used as part of a firefighter or work garment for protection against heat and flame, the outer shell fabric has superior tear resistance, abrasion resistance, UV resistance, and thermal protective performance when compared to other outer shell fabrics used for the same application. In addition, the textile material is more elastic than traditional woven fabrics of the same yarns, and when used in conjunction with a firefighter garment, increases comfort and mobility.